



Garden Cuttings

a monthly newsletter for the discerning gardener

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"The Best Purpose of a Garden"

"I hold that the best purpose of a garden is to give delight, and to give refreshment of mind, to soothe, to refine, and to lift up the heart in a spirit of praise and thankfulness". These words were written by that redoubtable lady and great gardener, Gertrude Jekyll (of whom more inside this issue).

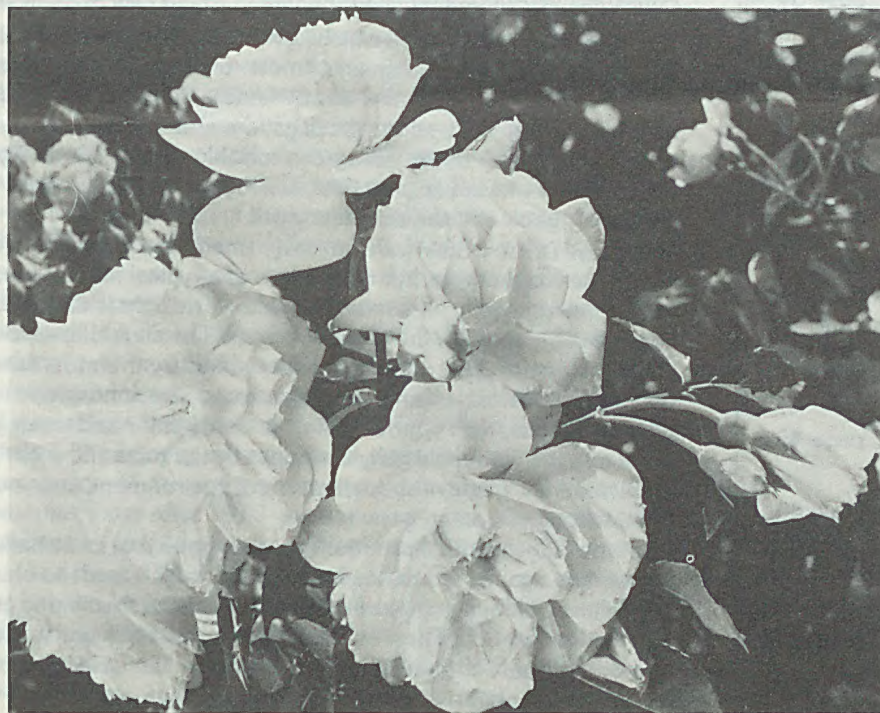
I believe that to achieve fully this 'best purpose' we need to encompass many things. We should not look at gardens and gardening in too narrow a context - that of our own garden or those around us, of any particular style of garden or any one group of plants, nor of the flora of any one country. We should have an interest, not only in the plants we happen to grow, but in the whole history and evolution of cultivated plants and their potential for still further development. We should be interested in the evolution of garden design and how it can be continually adapted to meet changing needs. In other words we need to have an enquiring interest in the past, a delight in the present and a thoughtful curiosity about the future. Gardens are dynamic, living things, and the observation of the

changing seasons, the changes brought about by the passage of time, and the expectation of what is still to come, is part of their delight.

I believe strongly, too, that real garden lovers should, ideally, travel widely and read widely. Though we have many fine gardens in this country, there has not been time, in the short space of less than two hundred years, to establish a great tradition in gardening; our native flora, one of the most diverse in the world, is only on the fringe of being developed for horticultural use. There is, therefore, much to be learned from the great gardens of Europe, from some in North America, and, of course, from China and Japan.

Reading should complement travel, but if travel is impractical it is the best substitute. Perhaps never before in this country have we had such a fine selection of books on gardens and gardening from which to choose. A few are reviewed in this issue and there are many, many more. When it's too hot to garden, find a shady spot and go there with a good book.

TIM NORTH



LA MARQUE - (NOISETTE) -
CASCADES OF DAINTY CREAMY -
WHITE BLOOMS ON A THICK LIGHT-
GREEN CLIMBER. IT FLOWERS AS
FREELY AS ANY MODERN ROSE.

(Photo: ROSS ROSES)

Book Reviews

The Bush in Bloom

by Kathleen McArthur

Published by Kangaroo Press;

recommended retail price \$19.95

Kathleen McArthur lives in Caloundra, in Queensland. She is an accomplished wildflower artist and a dedicated conservationist.

In this book she takes us through the year, month by month, describing in words and paintings the wildflowers as they come into bloom. She knows them all intimately, the Bloodwoods, pink Euodias and twining Guineaflowers, the native orchids and hibiscus, Passionflowers and Doubletails, and she paints them accurately and with feeling.

Not only does she write about the plants she knows and loves, but also about the men who discovered them and the stories which surround them. She tells, for example, how the Italian Francesco Borone, after whom the genus *Boronia* was named, tragically met his death when, in a fever, he walked in his sleep out of his upstairs bedroom window; and how Walter Hill, when Colonial Botanist in charge of the Brisbane Botanic Gardens, in a fit of petulant behaviour following his forced retirement, started to tear out of the ground a large number of trees in the Gardens.

Strands of history and Aboriginal lore weave in and out of Kathleen McArthur's by no means inconsiderable botanical knowledge, to make this a delightful and very readable book. Her pictures alone (sixty-two in colour) are worth the modest amount it costs.

The Bush in Bloom is available direct from the publishers, at 3 Whitehall Road, Kenthurst, N.S.W. 2154, for \$21.45, which includes postage and packing.

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Banyan

a selection of poems by Edwin Wilson

Published by Woodbine Press

Why should a gardening magazine review a book of poems? If a reason is needed it is because Edwin Wilson is Publicity Officer at the Royal Botanic Gardens in Sydney; he spent much of his early life in the beautiful countryside and rainforests around Mullimbimby, on the far north coast of New South Wales, so not surprisingly there is a recurring botanical imagery in his poetry.

One feels that he is probably more at ease with Nature than he is with the uncompromising environment of the city. The best of his poetry comes when he is being quietly introspective, rather than when he is trying to describe the Sydney Domain or the Armidale Bowling Club.

Some of it is delightful, as in 'Maggie', when he recalls

"A creaking house of eiderdowns
And lace, of tabby cats and
Fuchsia pots, and hanging ferns,
Of melting scones and orange jam,
Of china pears and grace."

Or when he writes of *Nepenthes*, one of the Pitcher Plants

"In the close under-arm of a tropic
House, dripping from the end of a leaf
A tendril swells into a drop of grief."

There is, too a lovely ode to Mrs Macquarie's 'Wishing Tree', planted in the Royal Botanic Gardens about 1817.

A limited First Edition of 1000 numbered and signed copies of this book are available from Edwin Wilson, P.O. Box 32, Lane Cove, N.S.W. 2066 for \$20.00 (hard cover or \$10.00 (soft-cover).



Ferns for the Home and Garden

by Gillian Dunk

Published by Angus and Robertson

This is a soft-cover book which covers, in considerable detail but in non-technical language, most of what enthusiastic gardeners will want to know about ferns - their history, their economic uses, cultivation, propagation and hybridizing. As such it is a useful book, sitting comfortably in and adequately filling that awkward niche that lies between the 'popular' gardening book and the scientific work.

Gillian Dunk writes with an easy, unaffected yet effective style; take for example, her description of a typical natural fern environment, a gully on a mountainside - 'The light is dappled, filtering softly through the overhead trees. The air is still, winds and draughts broken down to gentle eddies by the mountain boulders and massive trunks of ancient trees. The atmosphere is cool and moist, with vapour from the damp floor and oozing rocks trapped within the gully's confines by the trees and rocks'. Think for a few minutes about that sort of environment, and you will understand how to grow ferns.

Some of the colour illustrations are very good, but some have been taken against too dark a background, which tends to blur the delicacy of foliage patterns and detracts from their value as aids to identification. There are also some useful black and white photographs and a number of line drawings. The select list of ferns is comprehensive.

Book Review

Gardens of a Golden Afternoon

by Jane Brown: published by Allen Lane:

Recommended retail price \$29.95

Reviewed by Tim North

In 1889 the great Victorian Age was almost over. There were ominous rumblings of change, for in that same year the London dockers went on strike for a wage of sixpence an hour; four years later Keir Hardie was to form the Independent Labour Party, while, on a rather higher intellectual plane George Bernard Shaw and others had already formed the Fabian Society, dedicated to the gradual spread of socialism. The Art and Craft Movement of William Morris, Burne Jones and others was threatening the accepted standards of artistic good taste.

But these were only rumblings; outwardly all was serene, and the wealthy landed gentry could still indulge their whims in their lavish country houses, attended by a retinue of meagrely paid servants. Not for another twenty-five years would all this end in the cataclysm of 1914. These were the years of the Golden Afternoon.

It was in 1889 that a chance meeting in a Surrey garden - "we met at a tea table, the silver kettle and the conversation reflecting rhododendrons" - started an extraordinary partnership, one that was to have a profound effect on the history of garden design. Across this tea table met, for the first time, a short, stout, stumpy, short-sighted spinster and a young, ambitious, but rather naive architect, twenty-five years her junior. She was Gertrude Jekyll, he Edwin Lutyens.

Miss Jekyll had studied art, and several years earlier had met the volatile William Robinson, who had just published the revolutionary 'English Flower Garden', and who was busy denouncing everything that Victorian gardeners held sacred. She found Robinson's ideas broadly in sympathy with her own, and they were to become firm friends. Lutyens was a visionary, inclined to wild flights of architectural fantasy, but together they went on to design, between them, over a hundred houses and gardens. A Lutyens house and a Jekyll garden became the outward symbol of good taste and financial success.

'Gardens of a Golden Afternoon' is a beautifully written, extremely sensitive and thoroughly researched story of this remarkable partnership, and covers not only the golden afternoon, which was the period of their most conspicuous success, but also the troubled years that followed it, during which, to a large extent, both went their own ways, and the partnership faltered. Jekyll, becoming more and more myopic, retreated into her beloved Munstead Wood - their first joint assignment - and seldom even travelled to see the gardens she planned. Lutyens, on the other hand, became an international architect, travelling the world on prestigious commissions. As Jane Brown so aptly puts it, the early gardens were 'a peculiarly apt and beautiful expression of the spirit of an age on the brink of extinction', whereas those after 1910 'must be recognized as an impossible attempt to perpetuate a vanishing dream in a changing world'.

And therein lies the rub; for only a handful of those hundred or so beautiful gardens they created together survive in anything like their original form. Many have disappeared altogether; others have been so altered or unsympathetically restored as to be unrecognizable. It is perhaps significant that one of the most

successful restorations, at Hestercombe Court in Somerset, has been carried out by Somerset County Council for its new Fire Brigade Headquarters. To restore most of these gardens would be beyond the means of almost every private owner, for they were designed for an age in which lavish expenditure was at one with the values of Society, and when the normal complement of gardeners was anything from ten to twenty.

But Jekyll and Lutyens were rebels in their own age. They threw off the shackles of Victorian formality, its social rigidity and ostentation; their houses and gardens were not designed to impress or intimidate, nor were they intended for great social functions; they were, albeit within the contemporary meaning of the term, family homes.

Jekyll believed that a garden must tempt one to stray from the house, which still retained an intimate relationship with it, that it should stimulate the eye at one point, cool it at another, leading almost imperceptively through a sequence of experiences - through an arch, along a tunnelled pergola, or a yew-lined walk. And all through there would be the most subtle and subdued colour harmonies - grey and green being her favourites.

Fortuitously, though the beloved Munstead Wood has gone along with most of those glorious gardens of the golden afternoon, there are some which, although the partnership had no hand in them, derive much of their inspiration from it, and which survive virtually intact. Hidcote and Sissinghurst are the supreme examples, both now safely in the hands of the National Trust.

Few can now afford gardens on this scale, but the Jekyll philosophy of garden design, drawing in turn its inspiration from Francis Bacon - "gardening is the greatest refreshment for the spirit of man" - is timeless; even the smallest modern garden can draw its inspiration from this source, and that is why this is such an important book.

It is not just a good book, it is a superb book. It contains some literary gems like "they swept away Kentish leapings and Brownian capabilities to find a necessary sanity, serenity and sobriety". It refers to the short-sighted lady's 'psychic driving' of her pony cart, and Lutyens' steps as being 'a celebration of the art of changing levels'. It is extremely well illustrated, both in black and white and colour (many are old 'Country Life' photographs) and there are interesting reconstructions of many of the plans.

Jane Brown finishes her book with a thorough evaluation of all the Jekyll/Lutyens gardens, with reference to their existing status. She raises many questions that need to be answered, most important of them the one that can haunt us 'to preserve or not to preserve'.

If you love gardens, and all that gardens mean, buy, beg or borrow this book, but whatever you do, read it.



Plants wanted

Mr Michael Puckey, c/- Post Office Nimbin, N.S.W. 2480, is seeking seeds of *Cananga odorata* Ylang-Ylang.

If any reader is able to assist will he/she kindly get in touch with Mr Puckey direct.

Why grow old roses?

by Deane M. Ross

There is no doubt that the 'old world' roses are currently enjoying a wave of popularity. Many gardeners are buying and growing them, and hopefully enjoying the results - but is everyone happy with the results? It may be worth looking at just what these old roses are all about, and trying to analyse what you should or should not grow, and what sort of effect you are trying to create.

Let me start by explaining my interpretation of some of the terms and classes, so that we know what we are talking about. Instead of 'old world' roses, I prefer to use the term 'shrub roses', which then embraces practically all of the 'odd' types that you do not find in the general catalogues of hybrid teas, floribundas, miniatures and climbers.

From here, I would like to divide the shrub roses into a number of groups, which indicate their use or special features rather than their exact botanical class.

The groups would be:-

- Earliest cultivated roses
- Early recurrent flowering roses
- Nostalgic roses
- Hardy shrubs and hybrid species
- Climbers and ramblers
- Original species
- Botanical curiosities
- Historic roses

As I explain these various groups, I hope that you will be able to identify your needs and aspirations from them. I will mention a few typical or recommended examples of each, but the selection is very basic, for there are several excellent books that go into the subject in more detail.

The earliest cultivated roses take in the period from Roman times until the early 19th century and were grown mainly in

European gardens. At this stage of development, they were hardy thicketing plants with usually flat, double, ruffled blooms in colours of white, pink, dusky red to mauve, but limited to spring blooming only. Their perfume was rich and pure. The moss is the best known class of this group; others include the Cabbage Rose (*R. Centifolia*), Damask (*R. damascena*), Red Rose or Provins Rose (*R. gallica*) and the White Rose (*R. alba*). Many of the well known paintings of Redoute fall into this group.

The number of varieties that have come down to us, and are still available from specialist growers, is quite large, possibly over a hundred or more, but the choicest ones to start with would be *R. alba maxima* (white), Konegin von Danemarch (pale pink), Assemblage des Beantes (light red), Cardinal Richelieu (mauve), Mme. Hardy (white), *R. centifolia muscosa* (pink), Jenny Duval (lavender-grey), Camaieux (striped).

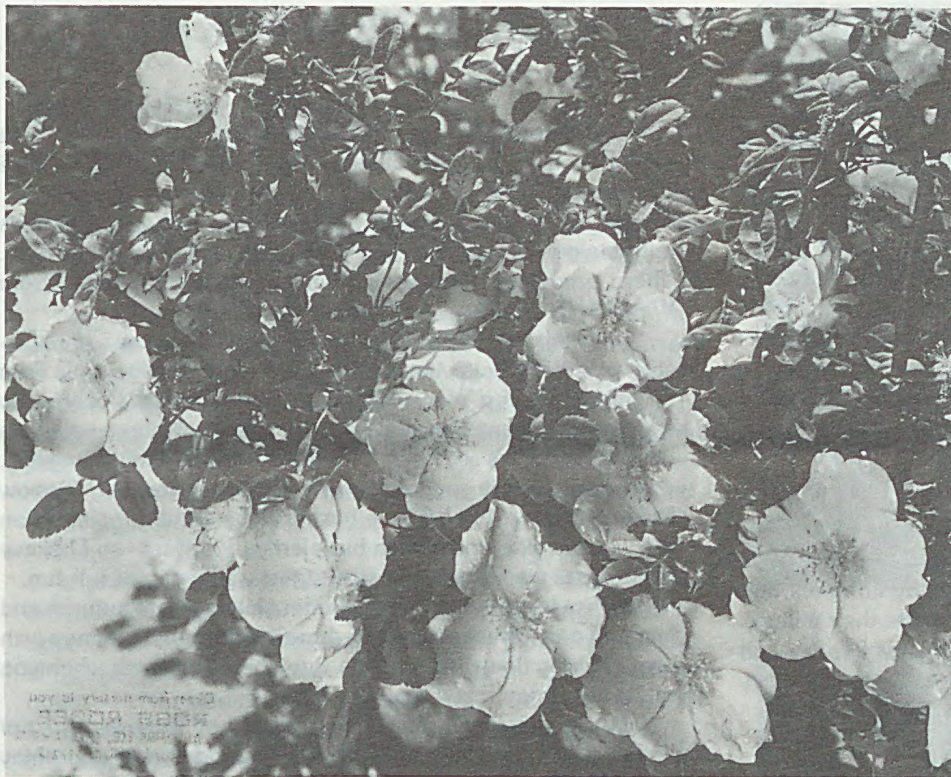
Earliest recurrent flowering roses. The introduction of the recurrent flowering genes from the then recently discovered China roses in the early 19th century provided a huge impetus to rose breeding, for it not only gave improved flowering, but also changed the shape of the blooms to the better known, higher centred roses. The Bourbon and Noisette classes were strong growers, almost to the point of moderate climbers, with double, often globular flowers, and to me, are the best choice between a typical 'old world' looking bloom together with a reasonably long flowering period. The more recent Tea Roses (late 1800's) moved a step closer to the modern roses, with their delicate pointed buds, but still possessing old informal charm in their ruffled open blooms and nodding heads. The China hybrids were small growers, with casual little flowers that were born in profusion in tones of cream, pink and red. Try La Reine Victoria (pink Bourbon), Gloire de Dijon (buff Noisette), Safrano (Safron Yellow Tea), Reine des Violettes (mauve and silver), General Gallieni (brick to buff Tea), La Marque (white Noisette), Souv. de la Malmaison (low, pale pink).



CONSTANCE SPRY HAS LARGE LUMINOUS PINK BLOOMS IN SPRING ON A PLANT THAT CAN BE TRAINED AS A MODERATE CLIMBER OR A LARGE SHRUB.

"Unless you could see them, you would not believe how beautiful the roses are here", wrote Georgina Lowe after a visit to Alexander Macleay's garden at Elizabeth Bay House in the late 1840's. The old shrub roses were popular as garden and cut flowers, and thrived in Australia from their first introduction with early settlement.

(Photo: ROSS ROSES)



R. HUGONIS (FATHER HUJO'S ROSE) : ATTRACTIVE SHRUB TO 2M HIGH - FLOWERS EARLY IN SPRING, 50MM DIAM. SOFT YELLOW FLOWERS; FINE FERNY FOLIAGE.

(Photo: ROSS ROSES)

Nostalgia Roses, to me, are the roses that were growing within the memory of the older folk. People often say to me 'I understand that you have a lot of the old roses, do you have (for instance) Talisman?' I discreetly point out that a rose introduced in 1930 is quite modern in comparison to what we have just been discussing. Nevertheless, a lot of people still cherish the memory of Mme. Butterfly, Crimson Glory, Radiance, Shot Silk, President Hoover and Merrow G.A. van Rossem, although their form scarcely differs from the present day roses. But, I am sure that if these were re-introduced they would find many nostalgic owners.

Hardy Shrubs and Hybrid Species. This is where all the misfits are put! Please don't get me wrong, I mean it in the most complimentary way. You will appreciate that for the sake of order and convenience, we classify roses (and other plants) into various categories. Some excellent roses do not fit into the customary categories, and yet are too good to lose. They vary too much to be able to describe in a general way. Suffice to say they are all hardy and spectacular, and feature a wide range of characteristics. Some, like the Hybrid Musks, Buff Beauty, Cornelia, Felicia and Penelope, flower very freely on large cascading bushes. Others, which are closer to their species parent, feature large single blooms and more upright growth. Fruhlingsmorgen (cream edged cerise), Nevada (cream), Scarlet Fire, Maigold (yellow) are examples. Then there are others such as Pink Grootendorst (small fimbriated petals), Fritz Nobis (pink), Stanwell Perpetual (white) and Parfum de l'Hay (red) which are just good to have in the garden for no other reason than being good roses without a 'home'.

Climbers and Ramblers. What is the difference between the terms? To me, a climber is rather upright and stout in habit, while the rambler is thin and cascading, but don't ask me to define where one stops and the other starts. Many of the ramblers, such as Bloomfield Courage and Dorothy Perkins make good ground covers, and will effectively cascade down embankments.

Remember that each variety has its own natural vigour, which

you cannot over-ride much by pruning and training. Smallish climbers like Vielchenblau (violet) and Goldfinch (yellow), may be contained on a 2-3m post, while Mermaid (yellow), Silver Moon (white) and Wedding Day (cream) will climb over sheds and high into trees.

Original Species. If some of the earlier mentioned roses are atypical - then the species represent the widest extremes that can be imagined to be a rose. They can be likened to the roadside briar, for most have smallish, single blooms. Most only flower in the spring, but over an extended period. The lighter colours of white to cream and yellow, to soft pink and lilac predominate, but there are brighter colours such as the scarlet *R. moyesii* and the purple *R. rugosa*. Habits of growth and types of foliage add an interesting dimension to the species, and as a further bonus, most set distinctive hips (seeds) in a wide range of shapes and colours.

For me, the species have three purposes. With their informal 'wild' growth, they make a good transition from the formal garden to the native scrub. The cuts of foliage, flowers and hips find a place in floral art or decorating, and thirdly, they are a living illustration of where our modern roses came from, showing the various characteristics that have been bred through many generations.

Botanic Curiosities abound in roses, especially the species roses. Although some people may consider them gimmicky, there is nevertheless a lot of beauty in them, and a sure conversation piece. The China Green Rose (*R. viridiflora*), the striped Rosa Mundi (*R. gallica versicolor*), The Sacramento Rose (*R. stellata mirifica*) with gooseberry-like foliage and hips, the distorted foliage of *R. centifolia bullata* and *R. multiflora watsoniana*, the mossy growth of *R. centifolia muscosa* and the huge thorns of *R. sericea pteracantha* are prime examples.

Historic Roses. Roses have been recorded as far back as recorded history, and many roses carry names to commemorate people or events. Best known would be the White Rose of York (*R. alba*), the Red Rose of Lancaster (*R. gallica*) and the York and

Why grow old Roses? (continued)

Lancaster (*R. damascena vericolor*) and their association with the English War of the Roses. The Quatre Saison (*R. damascena bifera*) was probably the earliest cultivated rose; Empress Josephine, Souv. de la Malmaison and *R. Dupont* are associated with the famous Malmaison garden, while Cardinal Richelieu, Fantin-Latour, Omar Khayyam and Rosa Mundi (from Rosamunde) are examples of interesting points of history.

Then there are the landmarks in rose development, with La France being the first Hybrid Tea rose, Soliel D'Or the first Pernetiana type, Champney's Pink Cluster the first Noisette, Rose Edouard the first Bourbon and *R. chinensis minima* the parent of our modern miniatures.

So you see, there are lots of aspects to the 'old' roses. I hope you have been able to 'home in' on the group that suits your purpose. To be quite fair, the modern roses most probably perform better and are hardier, but the old roses, I am sure, have that elusive charm about them that wins many admirers and makes people love them and grow them, despite their failings.

Further reading 'Old Shrub Roses', 'Shrub Roses of Today' and 'Climbing Roses Old and New', G.T. Thomas, Phoenix House. 'The Charm of Old Roses', Nancy Steen, N.Z. 'The Rose' Jack Harkness, McGraw-Hill. 'Shrub Roses in Australia', Deane M. Ross

More on Rugosa Roses

By Kay Overell

Rugosas certainly are tough garden plants. In my garden at Palm Beach, Sydney I find they have only two faults, both can be overcome.

Red spider is one and last growing season I controlled this mite biologically by releasing predatory mites into the garden. These predatory mites eat red spiders and were posted from Warwick Queensland, by Biocontrol.

I grow the dark mysterious Roseaie de L'Hay, the soft musk-stick pink Belle Poitevine and the single, hauntingly simple Frau Dagmar Hastrup. Now whilst these ladies have tremendously strong constitutions, Frau and Belle have quite delicate complexions hence their petals scorch in full sun on a hot Sydney spring day.

There are some good specimens of Rugosa Roses at Rainbow Ridge Nursery, Dural. These bushes have shrub protection on the western side - no scorch but plenty of flowers - so I believe these roses would thrive best with just a half day of full sun.

Rugosa leaves turn a lovely butter yellow in late autumn and lingered on my bushes until late June making quite a picture with some nearby flowering jonquils. June being a month when you really can enjoy the warmth of yellow.

The flowers are useless for cutting but Rugosas are not bedding bushes. Think of them as flowering shrubs and enjoy their almost maintenance free ways.

The Royal Botanic Gardens, Sydney

Late last year the impressive new National Herbarium was opened. In the old Herbarium building there is now a well laid-out and much needed Visitors' Centre.

It is fitting that a year of such notable development should also see the arrival of a most informative, beautifully illustrated (in colour) and beautifully produced booklet on the Gardens - their history, a description of the Gardens today, the activities they are involved in and the services they provide, and plans for further development.

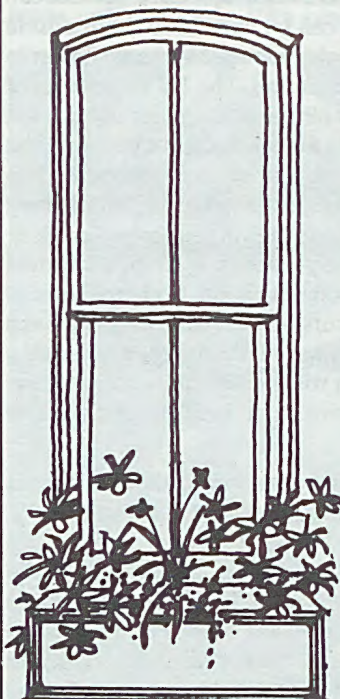
This booklet, which has been produced with the assistance of Westpac Banking Corporation, will appeal to all those who appreciate the enlightened role that our Botanic Gardens are now playing. It is available at the Visitors' Centre at the Gardens for \$4.00, and by mail order from The Royal Botanic Gardens, Mrs Macquarie's Road, Sydney 2000, for \$4.75, to include postage and packing.

1982 also saw the formation of the Friends of the Botanic Gardens, and more information on this organization will be published in next month's issue of 'Garden Cuttings'.

Window Boxes

Visitors to almost any European city - or small town for that matter - admire the colourful window boxes that decorate streets and squares. Why, then, don't we make more use of window boxes in Australia? They are ideal for terrace and town houses, for office buildings and the upper floors of shops. Perhaps in future we will, for a firm in the Sydney suburb of Paddington is now making very high quality window boxes of Western Red Cedar. For further details write to: Architectural Timber Products, P.O. Box 447, Paddington, N.S.W. 2021.

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English Gardens No. 8

Bressingham Gardens, near Diss, Norfolk

The name Alan Bloom will be familiar to almost every gardener who is enthusiastic about hardy perennial plants, for few people know more, grow more or have done more to popularize them.

Alan Bloom started a nursery at Bressingham in 1946. From a small beginning it has grown to be the largest hardy plant nursery in Europe, covering 150 acres and employing 170 skilled workers. About five million plants are produced every year, comprising some 2500 different kinds and including hardy perennials, alpine, hardy shrubs, conifers, rhododendrons and heaths. Plants are sent to almost every corner of the world, including North and South America, Japan, Australia and New Zealand.

Impressive as these acres of growing plants are, all in neat and ordered rows, the most interesting part of Bressingham is the ornamental gardens. It was Alan Bloom who pioneered the idea of growing hardy herbaceous perennials in island beds as opposed to the traditional long border, which can be viewed only from the front. These gardens, laid out on undulating ground, consist of a seemingly endless sequence of island beds, containing, between them, somewhere between 7000 and 8000 different kinds of plants - a real feast for the hardy plant enthusiast.

Alan Bloom, says that his early objectives were 'not to make a display garden so as to encourage visitors, and much less customers, but to indulge in a love of plants in the belief that conditions were favourable for collecting and growing a wide range of hardy plants'. Since he started about a hundred new varieties have been raised in Bressingham.

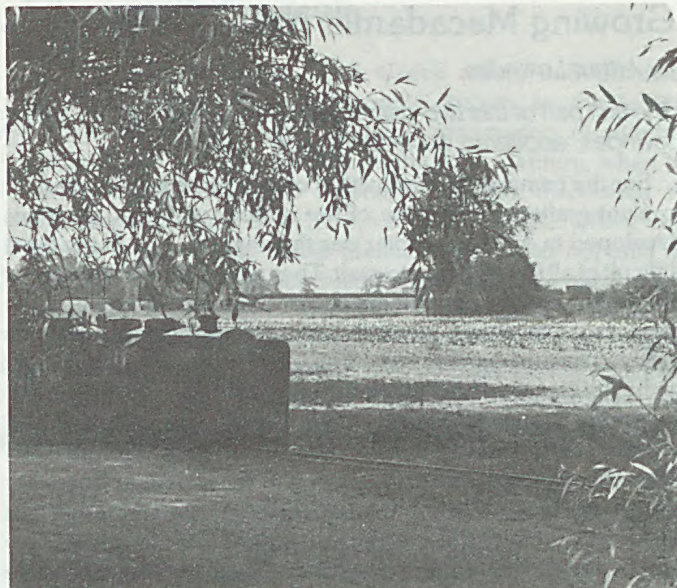
What is now a lake in the middle of the ornamental gardens was once a small pond, and Alan has built a bridge over it, using the local Norfolk flints; since then several retaining walls have been built of the same material.

But there is more to Bressingham than plants and gardens, for Alan Bloom - a remarkable man in many ways - is also fanatical about steam engines. Over a period of years he has gathered together an extraordinary collection of old steam engines, many of which he has restored himself. From road vehicles the collection spread to railway locomotives, and with the opening of the gardens and nursery to the public (the proceeds, incidentally, go to charity) what better way of seeing the widespread nursery fields than by train! Now the 'nursery line' has a circuit of over two miles; on open days (twice a week in summer) thousands come to Bressingham, many of them surprised to find that the character with the mane of grey hair falling over his shoulders, the gold ear-ring and engine driver's cap, taking them for their two mile train ride round the nursery is none other than Alan Bloom!

The collection of steam engines now stands at six narrow gauge locomotives, fourteen standard gauge locomotives, and sixteen traction and road engines.

Bressingham is truly a remarkable place, dominated by a truly remarkable man.

Note: Bressingham Gardens is included in the itinerary of our English Gardens Tour next year. For rather obvious reasons we are not going there on a public open day, so the 'nursery line' will not be operating. There is, however, a vast amount of interest in the ornamental gardens).



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Growing Macadamia Nuts - part 2

by Arthur Lowndes

(The first part of this two-part feature on macadamias, by Arthur Lowndes, appeared in our December 1982 issue)

For the commercial production of macadamias it is essential to plant grafted plants. One of the reasons why they were not developed in Australia earlier was that they are one of the most difficult of all fruiting trees to graft. They were grown in Hawaii for 35 years before an agricultural student named Moltzau became the first man to make a successful graft. Even long after that it was believed that the harsher conditions and more difficult character of the grafting wood in Australia made grafting impossible here. One man, however, had been quietly grafting macadamias and selecting improved varieties for many years; he was Mr Norman Greber, a pioneer farmer then living in retirement at Beerwah.

For the home garden, grafted trees are preferable but not essential, and in fact the supply of grafted trees to the nursery industry is still limited. But if you buy a seedling tree, if possible get one which has been grown from seed of a known and recommended variety. Desirable characteristics include vigour, dark green foliage and strong crotches. Recommended Hawaiian varieties include Keauhou 246, Ikaika 333, Kakea 508, Keaau 660, while eggshell, a selection made by Mr Greber, is a good yielder, has excellent quality nuts and does well around Sydney.

Plant your tree in a sheltered site which receives direct sunlight all day. Keep weeds away from the root area by hand pulling or weedicide, never by cultivation.

I prefer compost, blood and bone, or animal manure mixed with old hardwood sawdust or any other vegetable waste material. If you use chemical fertilizers it is safe to use whatever mixed fertilizer is recommended for citrus in your district, both as to type and quantity per tree in relation to age. The best times to apply fertilizer are early autumn, when the main flush of vegetative growth is beginning, and at the end of winter, when flowers are beginning to develop.

Different varieties and individual trees need to be trained in different ways. The following, however, are the main points to follow:-

1. The macadamia should be trained to a central leader. Select the main branches so that they form scaffolds of 3 to 4 branches coming from the same or adjoining nodes, and spaced at about 45cm intervals.
2. Narrow crotches must be avoided at the junction of branches and trunk.
3. Main branches should not be allowed to fork within about 70cm of the trunk as this frequently results in a twisting action in strong winds and the breaking of the whole branch.
4. At no stage should more than 20% of the bulk of the tree be removed at one time.
5. When a tree comes into bearing it is desirable to remove lower branches to facilitate the collecting of nuts from the ground. Until this stage, a few branches at the lower level help to build the tree and shade the soil.

The main flowering period is spring, about September in Queensland and a month later in Sydney. Nuts ripen over a period of several weeks, beginning five to six months after the peak of flowering, that is about mid-February in Queensland and the end of March in Sydney. At one time it was believed that the nuts were not ripe until they dropped to the ground, but it has now been established that once about 10% of the crop has fallen the nuts remaining on the tree will be ripe. You can tell whether the nuts are ripe by cutting open the husk; if the shell is dark brown and if none of the inner white lining of the husk is adhering to the shell, it is ready to pick.

The early fall of nuts should be picked up at intervals of not more than ten days, and more frequently in rainy weather, when they may become affected by mould and fungus. Nuts taken directly from the tree are usually picked or knocked to the ground. Spread a fishing net or cloth on the ground, and use a long light stick, with two or three claws made from fencing wire attached to one end.

The Cropper Cracker

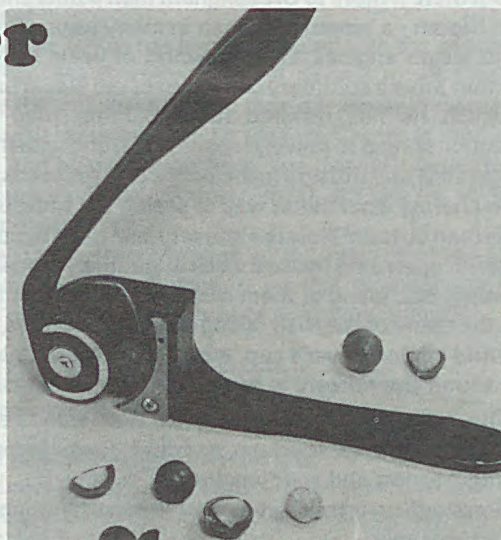
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**Macadamia and
hard shell nuts**

De-husk the nuts within a few days of picking. The husks of most varieties crack open and occasionally eject the nut, either to the ground or after drying for a few days. Shallow trays with sides and bases of wire netting are suitable for drying, both in-husk and in-shell. The in-husk nuts should be picked over every day or two to sort out those which have split open, before they become hard - if caught at the right stage the husks can easily be removed by hand, but if they are tight a light blow with a hammer will loosen them. After de-husking the nuts in shell should be dried in a cool dry place - not in the sun - for about six weeks. During this time the moisture content will fall from about 30% to around 10%. The drying ensures that the nuts will keep, it makes them easier to crack and the kernels will leave the shell more easily. A final drying in the oven at low temperature makes cracking easier.

When cracking the nuts the best results will be obtained if the pressure is applied at the micropile - which is detected as a small white spot at the opposite end from another larger mark made where the nut was attached to the husk.

One way of preparing the nuts is by dry-roasting in an oven, pre-heated to 350°F for about 25 minutes; turn the nuts a few times to avoid scorching and remove them from the oven as they start to turn a light golden colour. Add a little butter and some fine table salt.

The nutritive value of the macadamia nut was reported in the 1961 Yearbook of the Californian Macadamia Society by Carey D. Miller. She stated that 14gm (about 6 nuts) will provide 100 calories, 1.3gm of protein, 11.0gm of fat, 7.7mg of calcium, 33.7mg of phosphorus, 0.28mg of iron, 30mg of thianine, 16mg of riboflavin and 0.2mg of niacin.

Raw nuts have about the same value as cooked ones; cooking reduces the thianine value but increases the riboflavin and niacin content.

SHIRLEY STACKHOUSE'S 'GARDENING YEAR'

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Fibonacci's Formula

The ancient Egyptian and Greek artists and architects employed an aesthetic proportion known as the 'golden section' or 'golden mean'. But the progression of numbers involved was not articulated until the 12th Century, when the mathematician Leonardo Fibonacci, of Pisa, discovered the unending sequence of 1,1,2,3,5,8,13,21,34, etc. where each number is the sum of its two predecessors. It was not until this century that botanists observed this sequence in the forms of plants and other natural materials. For example one will find radiating from the disc centres of many chrysanthemum cultivars 21 clockwise spirals superimposed over 34 counterclockwise spirals. This 21:34 ratio expresses the mathematical placement of hundreds of individual florets growing within the disc in spiralled patterns.



A Wonderful Tree that nearly escaped our attention

By Neville Bonney

Tucked away in the south-east of South Australia is a tree that over recent years has become very popular both in home gardens and for farm purposes.

The tree is known botanically as *Eucalyptus leucoxylon* subsp. *megalocarpa*, and is commonly known as the Southern South Australian Blue Gum. It can be found growing only in two or three areas, and in these areas only remnant trees can be seen. One area however in which it can be found growing naturally is in the Cape Buffin National Park, an area where trees have to face the elements of the 'Roaring Forties' during the winter months, with shallow soils over hard baked limestone. Here it grows from two metres in full exposure to between five and eight metres in sheltered gullies. In cultivation it can grow from eight to fifteen metres depending on soil types and other climatic conditions.

Its flowering time is from May to September, and it is usually profuse with flowers from white to various shades of pink through to deep red. Its abundance of nectar within the flowers make it a wonderful food source for many of the honey-eating groups of birds. It is a tree with lots of character - bushy in habit during its early life, a white trunk and branches from a low height.

Providing seed is collected from good provenances this tree can and has made a worthwhile contribution as an excellent medium shelter tree in many areas.

In a country that has the largest selection of flora on any one land mass, one often wonders how many other shrubs or trees there may be with excellent potential. Perhaps it is worth while looking in your area - there could be a tree with all the potential of the Southern South Australian Blue Gum just waiting to be used in cultivation.



A brief history of the Darwin Botanic Garden

by George Brown - Curator

In 1870 Captain Douglas Bloomfield, the first Government resident reported that bananas, sugar cane and pineapples were thriving at the Settlement of Palmerston, (later Darwin).

It appears that all senior appointments to the Northern Territory carried the official admonishment to experiment with potentially important economic plants. It is most probable that agriculture was seen as a means of attracting industry, trade, and population.

Several 'Experimental Gardens' were established, and failed.

In 1887 Holtze listed more than 400 plant species of a German-born and Russian-educated settler Dr. Maurice Holtze to be the first Curator of the Darwin Botanic Garden. By 1883 the soil in the Fannie Bay area was exhausted and the trees were transplanted to the present site during 1884/85. Of 237 trees transplanted only 14 were lost.

Both Price and Holtze were enthusiastic over the future trading possibilities with Asia and the Port as Australia's Trading Centre. In 1982 we are still exploring these possibilities!

In 1887 Holtze listed more than 400 plants species of economic plants as being successfully established. Gardens produce took eight merit certificates, two gold, one silver and three bronze medals at overseas exhibitions.

Maurice Holtze was appointed to the Adelaide Botanic Gardens in 1891. His son Nicholas succeeded him in Darwin.

Nicholas Holtze, C.E.F. Allen, Mr. Rillstone, (while Allen served through World War One), Mr. Hill, E.G. Wood, all pursued the commercial plants programme as the main objective and despite destructive cyclones in 1897 and 1937 and a huge fire in 1902, attempts were made to include other values normally associated with 'True Botanic Gardens,' plant identification labels, seed exchange, a scenic train ride, distribution of plants (especially fruit) to settlers and even an attempt to become self-supporting by the sale of fresh fruit, vegetables and milk to the hospital. A tobacco drying kiln was built and the product sold at 'a reasonable price' in Brisbane in 1939.

Following the bombing of Darwin in February 1942, the Army took control of the whole town until 1945 when Mr. Jack Agostini was Curator.

Jack Agostini had the unenviable task of restoration, but his labours were successful, so much so, that when the Gardens were given to the care of the City Council in 1957, they were described as being Darwin's most attractive feature.

In 1957 the Experimental Farm was established outside the City at Berrimah. The Gardens, under control of the City Council and the succession of Curators, 'Doc' Alex MacKenzie, Brian Edwards and George Brown have become the City's major Park and its Plant Nursery the source of Street, Park and Foreshore beautification plants.

On December 24 1974 Cyclone Tracy struck Darwin. The Botanic Garden lost 78 percent of its trees, the Fern House, the Nursery and finally, having survived two cyclones and a war, the original Holtze Cottage succumbed.

Since 'Tracy' the opportunity has been taken to begin a programme of establishing collections of Plant Families and a start has been made on collections of Ficus (Fig) species, Terminalia, and Arecaceas (Palms). The Palm Family, pre-Cyclone Tracy was very poorly represented in the Garden,

having only about twenty species. This collection has been increased to well over one hundred species and the 'Palm Garden' is now a very popular site for local weddings.

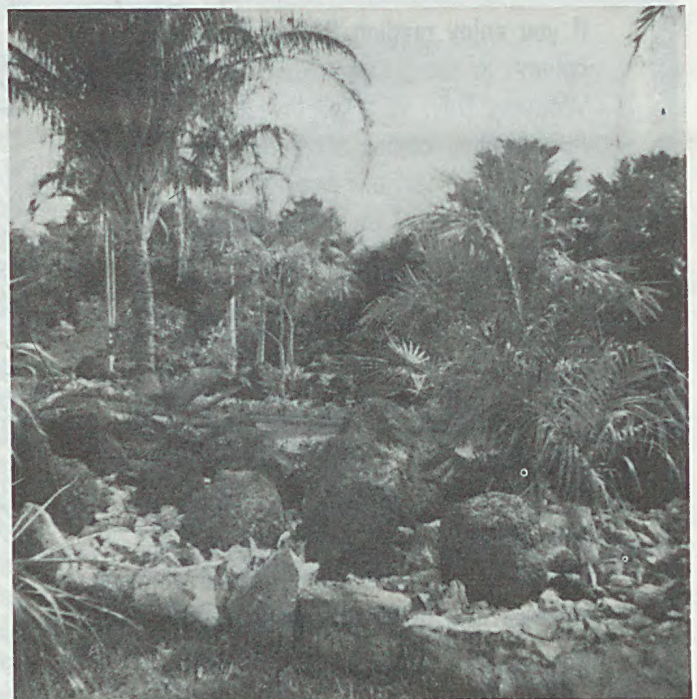
Holtze Cottage has been replaced by a Plant Display House which features a good collection of orchids. The basic collection was donated by Mr John Womersley, formerly a Senior Botanist in Papua New Guinea - Bromeliads, courtesy of the Queensland Bromeliad Society and a fine collection of Ferns, Anthuriums, Alocasias and other Tropical Foliage Plants.

Joint funding by the Darwin City Council and Northern Territory Government has seen the completion of a Restaurant/Kiosk within the Gardens and a \$600,000 Grant from Northern Territory Government has initiated a 3-stage, 3-year development of a tropical rainforest, freshwater lagoon and a tidal marsh and mangrove foreshore development and regeneration which will greatly increase the use and interest potential of the Gardens for both locals and tourists.

The City Council's present policy is to have The Gardens used to the fullest and best advantage for and by the greatest possible number of locals and tourists and this policy has seen the provision of a major playground, park lighting, picnic and barbecue areas and the encouragement of public use for community functions such as the Annual Garden Fair in conjunction with the Bougainvillea Festival, convention dinners and dances and private functions like weddings, church picnics and club functions. Of course, the majority of visitors are directed to The Gardens.

Local interested citizens see the Darwin Botanic Gardens, in its second hundred year period, taking its place in the National system of Botanic Gardens as a major local and tourist recreation park and as a scientific and educational Botanic Garden of National and International importance and esteem.

Footnote: The recent cyclone 'Max' claimed about ten large trees and a few shallow-rooted local Eucalypts and Acacias.



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Garden Cultivators

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Price can also influence the decision, and as this can vary from not much more than the price of a lawnmower to up to six or seven hundred dollars, the buyer has to be acutely aware of what he or she is buying and exactly what it will do for the money.

Masport Pty. Ltd. produce two cultivators - the 2.23 kw (3 hp) Home Gardener and the 3.73 kw (5 hp) Rotahoe. Both these are exported around the world; the Rotahoe in particular is popular in South East Asia because of its reliability and durability in a region where repair shops are few and far between.

The Masport Rotahoe will cultivate at varying widths up to 609 mm (24") and to a depth of 355 mm (14"). It is powered by a 3.73 kw (5 hp) IC series Briggs and Stratton engine and is driven by a standard A32 Vee Belt to a fully sealed worm drive oil bath lubricated gearbox. This gearbox is the main reason why the Rotahoe performs so well in comparison with larger horsepower, more expensive, machines. The belt drive is two speed and transmits full power to the austempered high carbon steel tines which are tough yet not brittle. Wheel height can be raised or lowered or repositioned inside the wheel carrier for inter-row cultivation. The wheels can also be moved forward or back for shallow or deep cultivation. A ridger assembly and cleated wheels are available as optional extras.

The Masport Home Gardener is a real surprise package. At first glance it would appear to be suitable only for backyard use. This first impression is quite wrong, for the Home Gardener is amazingly versatile and tough. It will dig, cultivate, trim edges, weed and even scrub with optional rotary brush.

Powered by a 2.23 kw (3 hp) IC series Briggs and Stratton engine, the Home Gardener is simple to operate and this is largely due to the extended neck which provides excellent manoeuvrability and good operator visibility where the action is. The long neck also allows the cultivator to dig to a greater depth than any other comparable cultivator.

The austempered carbon steel tines, which incidentally can be altered to either a 228 mm (9") or 406 mm (16") cultivating width, are powered by a totally enclosed drive system which includes a shaft from the engine inside the long reach neck to a fully sealed worm drive gearbox which can be used in three positions; normal for cultivation, inverted for reverse cultivation (used for fine finishing, aeration and fertilizer mixing) and vertical for weeding shallow cultivation, clearing and scrubbing. The gearbox securing clamp also acts as a shock absorber should and immovable object be encountered.

The Home Gardener is comfortable to use, simple to operate, compact, lightweight and well balanced. In fact, with the engine above the wheels, finger tip control is all that is required. The machine comes in standard form with 228 mm (9") and 406 mm (16") tines, weeding hoe, two prong cultivator, edge trimmer and stabiliser weight. Optional extras include a tine shield for protecting plants when inter-row cultivating and a rotary scrubbing brush.

Both the Rotahoe and the Home Gardener carry the Masport 18 month total machine warranty. They are available only through specialist servicing mower and cultivator dealers and selected rural outlets.

For further information on the Masport Rotahoe and Home Gardener contact the Masport State Office in your capital city.

Home Gardeners' Diary

In the fourth of a series, and the second edition in the broader Handbook format, the Royal Horticultural Society of Victoria has produced a useful and comprehensive guide for the home gardener.

The heart of the book is the text, thoughtfully compiled by Phyl Burrell, a noted Victorian garden writer. Many interesting features are included, such as:- Gardens open for inspection, recipes, garden hints, dangers in the garden, trees for every situation, and month by month cultural notes.

The Home Gardener's Handbook and Diary for 1983 comes complete with:

- spiral binding to lay flat
- a complete cross reference index
- week to an opening diary with three monthly calendar
- a list of garden clubs and societies
- a special section on herbs

It is available for \$4.99 plus \$1.00 postage and handling, from the publishers, the Royal Horticultural Society of Victoria, 418A Station Street, Box Hill South, Victoria, 3128; Telephone (03) 88-7646.



Summer School for Gardeners

The Garden Club of Australia will hold a Summer School for Gardeners at the Womens College, University of Sydney, on the 8th, 9th and 10th February 1983. The fees for non-members will be:

Residential - three days, all inclusive. . . \$87.00

Daily . . . \$10.00 per day

Enquiries to Shirley Pym on (02) 94-4817

Quote of the month

The kiss of the wind for lumbago,
The stab of the thorn for mirth,
One is nearer to death in the garden,
Than anywhere else on earth.

Nancy Mitford: A Memoir

garden cuttings

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